Name:

## p1105: Factoring when $a = 1$ (v10)

**Example: Factor $x^2 + 5x - 24$**

Find two numbers whose product is $-24$ and whose sum is 5. Focus on finding factor pairs of $-24$. Eventually you consider 8 and $-3$ because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 - x - 42$

$$(x - 7)(x + 6)$$

2. Factor $x^2 - 10x + 16$

$$(x - 2)(x - 8)$$

3. Factor $x^2 + 11x + 18$

$$(x + 2)(x + 9)$$

4. Factor $x^2 - 3x + 2$

$$(x - 1)(x - 2)$$

5. Factor $x^2 + 2x - 48$

$$(x + 8)(x - 6)$$

6. Factor $x^2 + 10x + 9$

$$(x + 1)(x + 9)$$

7. Factor $x^2 - 9x + 8$

$$(x - 1)(x - 8)$$

8. Factor $x^2 - 8x + 15$

$(x - 3)(x - 5)$

9. Factor $x^2 + 6x - 27$

$(x - 3)(x + 9)$

10. Factor $x^2 - 4x - 45$

$(x + 5)(x - 9)$

11. Factor $x^2 + 4x + 3$

$(x + 3)(x + 1)$

12. Factor $x^2 - 81$

$(x + 9)(x - 9)$

13. Factor $x^2 - 2x - 3$

$(x - 3)(x + 1)$

14. Factor $x^2 - 3x - 40$

$(x + 5)(x - 8)$

15. Factor $x^2 - 13x + 36$

$(x - 9)(x - 4)$